SYP-5

Cat. No.: HY-100693
CAS No.: 1384268-04-5
Molecular Formula: C₁₈H₁₆O₃S
Molecular Weight: 312.38
Target: HIF/HIF Prolyl-Hydroxylase
Pathway: Metabolic Enzyme/Protease
Storage: Powder -20°C 3 years
4°C 2 years
In solvent -80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO: 33.33 mg/mL (106.70 mM; Need ultrasonic)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>3.2012 mL</td>
<td>16.0061 mL</td>
<td>32.0123 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.6402 mL</td>
<td>3.2012 mL</td>
<td>6.4025 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3201 mL</td>
<td>1.6006 mL</td>
<td>3.2012 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
SYP-5 is a novel HIF-1 inhibitor, suppresses tumor cells invasion and angiogenesis.

IC₅₀ & Target
HIF[1]

In Vitro
SYP-5 inhibits hypoxia-induced upregulation of HIF-1. SYP-5 inhibits HIF-1 and downstream gene expression in Hep3B and Bcap37 cells. SYP-5 inhibits tumor cell migration and invasion, as well as tumor angiogenesis, which are mediated by suppressing PI3K/AKT- and MAPK/ERK-dependent HIF-1 pathway. The proteins of vascular endothelial growth factor (VEGF) and matrix metalloproteinases (MMP)-2 that are targets of HIF-1, are down-regulated by SYP-5. SYP-5 displays significant inhibition on hypoxia-induced overexpression of VEGF and MMP2 in both cell lines.
tube formation assay, SYP-5 suppresses angiogenesis induced by hypoxia and VEGF in vitro. SYP-5 also retards the Hep3B and Bcap37 cells migration and invasion induced by hypoxia and FBS. SYP-5 specifically inhibits hypoxic induction of luciferase expression in U251-HRE but not in U251-pGL3[1].

### PROTOCOL

#### Cell Assay [1]

The cells (1×10^5 cells/mL) are seeded into 96-well culture plates. After overnight incubation, the cells are treated with various concentrations of SYP-5 (2, 10, 50 μM) for 24 h. Then 10μLMTT) solution (2.5 mg/mL in PBS) is added to each well, and the plates are incubated for additional 4 h at 37°C. After centrifugation (2500 rpm, 10 min), the medium containing MTT is aspirated, and 100 μL DMSO is added. The optical density of each well is measured at 570 nm with a SpectraMax Paradigm Reader[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES